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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/069,182

05/22/2002

Takuo Sakai

0397-0441P

7643

2292 7590 02/05/2007
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EXAMINER

WARE, DEBORAH K

ART UNIT

PAPER NUMBER

1651

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
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3 MONTHS

02/05/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/05/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/069,182

Applicant(s)

SAKAI, TAKUO

Examiner

Deborah K. Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1 and 3-13 are pending.

Priority

Further, the foreign priority papers filed December 12, 2005, have been received.

Election/Restrictions

Applicant's election with traverse of Group I, 1 and 3-7, in the reply filed on November 12, 2006, is acknowledged. Regarding the traversal of groups I and III, which is on the ground(s) that claims 1 and 10 have the same technical feature, to produce an antibacterial substance. This is not found persuasive because the argument that Groups I and II are not properly restricted is noted, however, a food as set forth in Group II is a separate product than the substance itself of Group I, especially since a food is not necessarily an antibacterial composition, thus, the food may not have the same activity and function as Group I. Also the product of Group I has not been determined to be allowable.

Although both independent processes of each of claims 1 and 10 require production of an antibacterial substance, they do not require the same process steps for obtaining the substance as alleged by Applicants, of which make up a special technical feature that is different and separate; and further, may even produce two separate and distinct pectin substances because the substance is not identified per se in terms of its properties and characteristics, other than one which is a pectin substance which reads

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on pectin and one which is an antibacterial substance which is not even defined beyond that description in the claims.

Again, with respect to the process steps as noted about they do not require the same steps. Note that in any one process more than one pectin or pectins may be obtained which vary more or less, according to the kind of materials used to obtain them. Also claims 1 and 10 do not share the same steps since the cutting and grinding is not a required step by claim 1 and only required by claim 10

The requirement is still deemed proper and is therefore made FINAL.

Claims 8-13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention(s), there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 13, 2006.

Response to Amendment

The amendment filed July 21, 2006, has been received and entered. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over newly cited Sakai (US 4,835,262), note enclosed PTO-892 Form.

Claims are drawn to a process of producing antibacterial substance and product thereof. The substance is a pectin substance and is released from tissue of plant with an enzyme such as protopectinase.

Sakai teaches process for producing pectin substance and product thereof. The substance is released from tissue of plant with an enzyme such as protopectinase.

Note column 1, lines 9-11, lines 55-67, column 2, lines 1-10, lines 33-37, lines 62-63,

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column 3, lines 30-36, lines 52-53, lines 59-63, column 4, line 10, lines 17-22, lines 28 and 37 and lines 45-50, column 6, lines 27 and 29. Sakai teaches that propectinase is used to liberate a pectin substance and that and can be used as a medicine because it does not contain contaminating chemical substances. The pectin substance is obtained from plant tissue.

The claims are considered to be identical to the cited disclosure and are therefore, considered to be anticipated by Sakai. The antibacterial activity of the Sakai pectin substance is inherent since it is the identical substance obtained from the same kind of material, carrot plant tissue, which has been acted upon by a protopectinase. Any disintegration of the carrot plant tissue by protopectinase is inherent as well. The reference clearly teaches that carrot plant tissue is treated with protopectinase to obtain a pectin substance. The substance of Sakai and the claimed substance are not different because they are obtained from the same kind of material. The antibacterial properties are inherent to the pectin substance of newly cited Sakai because it is obtained from the same identical source. Also whether using protopectinase F, S, L, T, C or N the same mechanism of activity as disclosed by Sakai reference is inherent to any of these protopectinases as they all have the properties of liberating pectin from plant tissue. The enzymes are disclosed to be used at pH within the range of 2-10 and at a temperature within the range of 30 to 40 ° C.

However, in the alternative that there is some difference between them (the prior art and claimed method and substance, that is), then the difference is considered to be so slight as to render the pectin substance and process of the instant claims prima facie

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obvious over the newly cited Sakai reference. Also any protopectinase would have at least been expected to provide successful results so long as the enzyme does not decompose the pectin because Sakai reference discloses that their pectin-liberating enzymes do not decompose the pectin.

Therefore, so long as the protopectinase is selected based upon this premise it would be expected to provide successful results. One of skill in the art would have expected the properties of the Sakai's pectin substance to possess antibacterial activity because it does not contain contaminating substances in it for which to diminish the polysaccharides ability to function as an antibiotic having antibacterial activity. Typically polysaccharides are well known in the art for their industrial use as medicines such as antibiotics which have antibacterial activity.

Therefore, the pectin substance disclosed by Sakai reference would have at least been expected to provide successful results as an antibacterial substance. Furthermore, as disclosed by Sakai reference the pectin substance is obtained from carrot plant tissue which is the identical tissue used in the claimed process. The identical enzyme, protopectinase, is employed as well to liberate the same pectin substance. The pectin substance is disclosed to have industrial use as a medicine and to not contain contaminants. The disclosure at least guides one of skill in the art to obtain a pectin substance as disclosed with the expectation of successful results for one which possesses antibacterial activity.

Furthermore, the bactericidal composition containing an antibacterial substance as set forth by Sakai would have been expected to possess the capability of inhibiting

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spores from mold and spore-forming bacteria because the pectin is clearly taught to be suitable for medicine; and also the pectin of Sakai reference is not decomposed so it therefore, would have been expected to possess inhibiting activity against contaminants such as mold and spore-forming bacterial (i.e. Bacillus).

In addition, Bacillus is used by Sakai reference as an alternative to propectinase for obtaining pectin substance and the microorganism is also a well known spore-forming bacteria, thus, the Sakai pectin substance is produced using a spore-forming bacteria and not decomposed by it but is produced in great yields.

Therefore, in the alternative that such inhibitory properties are not inherent to the pectin substance of Sakai, it is evident from the cited disclosure that an expected result would have been obtained for inhibiting spores due to the presence of the Sakai pectin substance obtained with Bacillus microorganism acting upon plant tissue. Otherwise spores would have been produced by Bacillus microorganism during the process of producing the pectin substance as disclosed by Sakai reference, and this would have provided pectin substance containing contaminants, however, Sakai reference teaches that their pectin substance does not contain contaminants.

Response to Arguments

Applicant's arguments filed July 21, 2006, have been received and considered. The rejection under 35 USC 112, second paragraph has been removed in light of these arguments because they have been deemed persuasive, however, the art rejection remains for these reasons as follows:

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It is noted from the instant response that the pectin substance is not the same as the antibacterial substance. Thus, the argument that Sakai reference does not teach an antibacterial substance is considered herein this reply. The intended use of the composition is not necessarily given any patentable weight, and it is the composition which is claimed to inhibit germination of spores from spore-forming bacteria and koji mold.

A process of producing an antibacterial substance derived from plant is not required to inhibit germination of spores from spore-forming bacteria and koji mold although it is noted that the antibacterial substance is contained in the composition. However, the intended use of the composition can not be given patentable weight because it is composition itself which must be distinguishable over the art. Sakai clearly teaches that a plant extract can be obtained, note column 3, line 62. The extract can contain compounds other than pectin.

The identical procedure for obtaining an antibacterial substance as claimed is disclosed by Sakai, and a plant extract is also disclosed by Sakai to be obtained by the identical procedure. Therefore, the antibacterial substance is inherent to the teachings of Sakai because the same plant source (i.e. carrot) and procedure for obtaining a pectin substance and plant extract from carrot are disclosed. The antibacterial substance is inherent to the plant source disclosed by Sakai. Thus, if one of skill performs the same procedure as disclosed and claimed the antibacterial substance would have to be present too along with any pectin substance obtained by the disclosed

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process. Therefore, the instant claims are anticipated because the antibacterial substance is inherently disclosed by Sakai.

With respect to the arguments regarding reasonable expectation of success as a missing component of the alternative rejection of the instant claims under 35 USC 103, it should be noted that the inherency of the antibacterial substance lies in the disclosed plant itself and the procedure performed on the plant. The antibacterial substance is present because the identical plant source and process steps for obtaining the substance are disclosed by Sakai and one of ordinary skill would know that an antibacterial substance, for example phytoalexin are inherent to a plant because plants are capable of biosynthesizing antibacterial substances for their natural defense. Thus, it would be so recognized by a person of ordinary skill that an antibacterial substance would be present in a plant.

With respect to the argument that an isolation step is performed by Sakai at column 3, lines 37-55, it should be noted that the reference teaches that it may be performed and that such step is not required. Further, the reference clearly discloses that the method of obtaining a pectin substance is carried in a simply way, and that a plant extract can be obtained in this way as well, note column 3, lines 55 and 62. Therefore, all of the features are expressly or inherent disclosed. Finally, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., liberation of an antibacterial substance from hemiddle lamellae of plant tissue) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

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limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

All claims fail to be patentably distinguishable over the state of the art discussed above and cited on the enclosed PTO-892. Therefore, the claims are properly rejected.

The additional prior art cited on the enclosed PTO-892 Form to show further the state of the art, clearly teaches that antibacterial substances are inherent to plants note U.S. Patent No. 6,492,303.. Also to respond to Applicant's request for evidence that polysaccharide is a well known medicine not US Patent No. 6,339,075, also cited on the enclosed PTO-892 Form.

No claims are allowed.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah K. Ware whose telephone number is 571-272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah K. Ware
January 20, 2007


DAVID M. NAFF
PRIMARY EXAMINER
ART UNIT 128 1657